ABSTRACT

Methods for the multiplexed detection of known, selected nucleotide target sequences are provided. Detection involves the release of identifying tags as a consequence of target recognition. The methods include the use of electrophoretic tag probes or e-tag probes, comprising a detection region and a mobility-defining region called the mobility modifier, both linked to a target-binding moiety. In practicing the methods, the target-binding moiety of the e-tag probes hybridizes to complementary target sequences followed by nuclease cleavage of the e-tag probes and release of detectable e-tags or e-tag reporters. The mixture is exposed to a capture agent which binds uncleaved and/or partially cleaved e-tag probes, followed by electrophoretic separation. In a multiplexed assay, different released e-tag reporters may be separated and detected providing for target identification.